



**PAG-13  
AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
GENERAL PERMIT FOR STORMWATER DISCHARGES FROM  
SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)  
FACT SHEET**

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 *et seq.* (the "Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 *et seq.*, the Department of Environmental Protection (DEP) is authorizing the discharge of stormwater from regulated small MS4s to surface waters under the PAG-13 General Permit. The purpose of this document is to explain the basis for the effluent limitations and terms and conditions of the renewal of the PAG-13 General Permit, in accordance with 25 Pa. Code § 92a.53 (relating to documentation of permit conditions). The renewed PAG-13 General Permit will become effective on March 16, 2018.

The Department of Environmental Protection (DEP) published notice of the availability of a draft NPDES General Permit for Stormwater Discharges from Small MS4s (PAG-13 General Permit) in the *Pennsylvania Bulletin* on May 30, 2015 [45 Pa.B. 2674]. A 60-day comment period was provided, and interested parties were directed to submit comments to DEP's eComment system and/or DEP's MS4 resource email account, [RA-EPPAMS4@pa.gov](mailto:RA-EPPAMS4@pa.gov). During the comment period DEP received multiple requests for an extension to the comment period. DEP published notice of an extension to the comment period in the *Pennsylvania Bulletin* on August 15, 2015 [45 Pa.B. 4840]. The comment period ended on August 31, 2015. DEP received comments and questions from 64 different individuals and organizations during the comment period (note – some individuals and organizations provided comments on behalf of multiple clients or partners). A separate comment-response document has been developed to address all comments submitted and a number of changes were made to the final PAG-13 General Permit documents as a result (described in the comment-response document). A public hearing was not held on the draft PAG-13 General Permit. DEP also made changes to the final PAG-13 General Permit in response to the receipt of comments on the draft General Permit from the U.S. Environmental Protection Agency (EPA), as described in this fact sheet.

#### **SCOPE**

The PAG-13 General Permit is intended to provide NPDES permit coverage to regulated small MS4s for discharges of stormwater to surface waters. Permittees operating under this General Permit have been either automatically designated as regulated by EPA pursuant to 40 CFR § 122.32(a)(1) or designated as regulated by DEP under 40 CFR § 122.32(a)(2).

#### **NOI REQUIREMENTS**

MS4s with existing NPDES permit coverage, MS4s that previously have been waived by DEP, and MS4s newly designated as a result of the 2010 census that are seeking coverage under this PAG-13 General Permit or a waiver must submit an administratively complete and acceptable NOI by September 16, 2017 (i.e., 180 days prior to the effective date of the PAG-13 General Permit on March 16, 2018). MS4s authorized to discharge under an individual NPDES permit who are seeking coverage under this General Permit may continue to discharge in accordance with the individual permit while their NOI and associated documents are being reviewed by DEP.

The intent of DEP in issuing the PAG-13 General Permit is that once approval to operate under the General Permit has been authorized by DEP, an NOI to renew coverage is not required unless specified by DEP in writing. The Annual MS4 Status Report, due by September 30<sup>th</sup> each year, will also serve as an NOI for ongoing coverage. As a part of the Annual MS4 Status Report, the permittee must agree and certify that the permittee has read and continues to be eligible for coverage under the most recent PAG-13 General Permit and that it will comply with any conditions and modifications to those conditions. Coverage will continue as long as DEP reissues the General Permit and compliance with the General Permit is maintained. Notice of each approval of coverage and reissuance of the PAG-13 General Permit will be published by DEP in the *Pennsylvania Bulletin*.

The NOI fee for coverage under this General Permit is \$500 per year the permittee operates under the General Permit. Over a 5-year period, this complies with the requirement in 25 Pa. Code § 92a.26(g) that NOI fees may not exceed \$2,500. The initial \$500 is paid with the NOI for permit coverage, and then an installment of \$500 will be paid

each year by September 30<sup>th</sup>, to be submitted to DEP's Central Office, if stormwater discharges have not been terminated by the annual report due date.

#### **DISCHARGES NOT AUTHORIZED BY THIS GENERAL PERMIT**

The following discharges are not authorized under the PAG-13 General Permit, and DEP may deny coverage under the General Permit when one or more of the following conditions exist:

1. The discharge, individually or in combination with other similar discharges, is or has the potential to be a contributor of pollution, as defined in the Pennsylvania Clean Streams Law, which is more appropriately controlled under an individual permit.
2. The discharger is not, or will not be, in compliance with one or more of the conditions of the General Permit.
3. The applicant has failed and continues to fail to comply or has shown a lack of ability or intention to comply with a regulation, permit, schedule of compliance or order issued by DEP.
4. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source.
5. Categorical point source effluent limitations are promulgated by the EPA for those point sources covered by the General Permit.
6. The discharge is not, or will not, result in compliance with an applicable effluent limitation or water quality standard.
7. Other point sources within the MS4 require issuance of an individual permit, and issuance of both an individual and a General Permit for the facility would constitute an undue administrative burden on DEP.
8. Any discharge from the regulated small MS4 is or would be to a surface water classified as a High Quality (HQ) or an Exceptional Value (EV) water under 25 Pa. Code Chapter 93 (relating to Water Quality Standards).
9. The discharge(s) contain toxic or hazardous pollutants, or any other substance which, because of its quantity, concentration or physical, chemical or infectious characteristics, may cause or contribute to an increase in mortality or morbidity in either an individual or the total population, or pose a substantial present or future hazard to human health or the environment when discharged into surface waters.
10. The discharge(s) individually or cumulatively have the potential to cause significant adverse environmental impact or have been determined by DEP to have caused impairment to the surface waters receiving the discharge(s).
11. The discharge(s) would adversely affect a listed endangered or threatened species or its critical habitat.
12. The MS4 is covered by an individual permit, and coverage under this General Permit would result in less stringent effluent limitations or terms and conditions.
13. DEP determines that the denial of coverage is necessary for any other reason to ensure compliance with the Federal Clean Water Act, the Pennsylvania Clean Streams Law or DEP regulations.
14. The regulated MS4 is a large or medium MS4 as defined in 40 CFR §§ 122.26(b)(4) or (7).
15. The permittee is implementing a local or tribal Qualifying Local Program (QLP) pursuant to 40 CFR 122.44(s).
16. The regulated small MS4 is assigned a wasteload allocation (WLA) (either specific to the MS4 or general) in a Total Maximum Daily Load (TMDL) approved by the U.S. Environmental Protection Agency (EPA), where the pollutant(s) of concern are nutrients (i.e., nitrogen and/or phosphorus) and/or sediment (i.e., siltation or total suspended solids), and the MS4 is identified in the "MS4 Requirements Table" (see definitions).
17. The regulated small MS4 either 1) discharges to waters impaired for nutrients and/or sediment without an EPA-approved TMDL or otherwise discharges to the Chesapeake Bay watershed, and 2) is identified in DEP's "MS4

Requirements Table", and 3) has not developed and submitted a Pollutant Reduction Plan (PRP) with the NOI to reduce pollutant loading for the cause(s) of impairment.

18. Discharges that are commingled with sources of non-stormwater unless such non-stormwater discharges are identified in the "Discharges Authorized by this General Permit" section of this General Permit or are in compliance with a separate NPDES permit and do not cause or contribute to pollution.

19. Stormwater discharges associated with industrial activity as defined in 40 CFR §§ 122.26(b)(14)(i)-(ix) and (xi).

20. Stormwater discharges associated with construction activity as defined in 40 CFR § 122.26(b)(14)(x) or 40 CFR § 122.26(b)(15).

The eligibility criteria above are explained as follows:

- Eligibility criteria numbered 1 through 8 and 13 are those identified in 25 Pa. Code § 92a.54(e), i.e., conditions that will result in the denial of coverage under a General Permit.
- Eligibility criteria 9 and 10 are generally identified in 25 Pa. Code §§ 92a.54(a)(5) and (7), respectively, which are prohibitions on DEP to issue General Permits for these conditions.
- Eligibility criterion 11 is based on DEP's judgment; this criterion has been used in other DEP-issued NPDES General Permits.
- Eligibility criterion number 12 is based on DEP's interpretation of federal anti-backsliding policy.
- Eligibility criterion 14 is a prohibition on medium or large MS4s using the PAG-13 General Permit for NPDES permit coverage (individual permits are required for medium or large MS4s in Pennsylvania).
- Eligibility criterion 15 refers to the potential for MS4s to use their own QLP to implement DEP's stormwater discharges associated with construction activities program under 25 Pa. Code Chapter 102; if an MS4 does not use DEP (and/or its delegated agencies) to implement the requirements under Chapter 102, the MS4 is not eligible for PAG-13 General Permit coverage and must apply for an individual permit.
- Eligibility criterion 16 indicates that where an MS4 is identified in a TMDL as having a specific (individual) or general (bulk/aggregate) WLA for nutrients and/or sediment, the MS4 is ineligible for PAG-13 General Permit coverage and must submit an individual permit application. To assist MS4s in determining whether or not this eligibility criterion applies, DEP has developed the MS4 Requirements Table, available at [www.dep.pa.gov/MS4](http://www.dep.pa.gov/MS4).
- Eligibility criterion 17 states that where an MS4 discharges stormwater to waters that drain to the Chesapeake Bay, or otherwise local waters that are impaired for nutrients and/or sediment, a PRP is a requirement of the NOI, and where not submitted, the MS4 is not eligible for coverage under the PAG-13 General Permit. MS4s needing a PRP as part of the NOI are identified in the MS4 Requirements Table (listed under Appendix D or Appendix E).
- Eligibility criterion 18 prohibits the commingling of non-stormwater with the MS4's stormwater discharges, unless the non-stormwater is authorized under the General Permit. MS4s with knowledge of non-stormwater discharges other than those authorized by the General Permit are ineligible for coverage.
- Eligibility criterion 19 states that NPDES permit coverage for stormwater discharges associated with small MS4s does not constitute permit coverage for stormwater discharges associated with industrial activity. An industrial facility or activity that is required to obtain NPDES permit coverage must independently seek and obtain permit coverage, even if the industrial stormwater discharge enters the MS4.
- Eligibility criterion 20 states that NPDES permit coverage for stormwater discharges associated with small MS4s does not constitute permit coverage for stormwater discharges associated with construction activity. A construction activity that is required to obtain NPDES permit coverage must independently seek and obtain permit coverage, even if the construction stormwater discharge enters the MS4.

## GENERAL PERMIT MODIFICATIONS

The following sections describe modifications to the PAG-13 General Permit that will become effective on March 16, 2018 ("2018 General Permit") in comparison to the PAG-13 General Permit that became effective on March 16, 2013 ("2013 General Permit").

### Expiration of Coverage

As discussed previously in this document, DEP is eliminating the need for the submission of renewal NOIs every five years by incorporating the NOI requirements into the Annual MS4 Status Report form. As a result, DEP will not specify an expiration date on page 1 (Approval of Coverage) of the written PAG-13 General Permit package issued to permittees. DEP may however require the submission of a renewal NOI at any time. The expiration date of the 2018 General Permit will be March 15, 2023, but a permittee's coverage will continue indefinitely without the need for renewal NOI submissions as long as 1) DEP reissues or administratively extends the General Permit, 2) the permittee continues to be eligible for General Permit coverage, 3) the permittee submits its Annual MS4 Status Reports and is otherwise in compliance, and 4) DEP does not notify the permittee that a renewal NOI is required.

### Authorized Non-Stormwater Discharges

DEP has modified the list of authorized non-stormwater discharges to MS4s in the 2018 General Permit as follows:

- In addition to air conditioning condensate, the 2018 General Permit authorizes the discharge of non-contaminated water from geothermal systems.
- The 2018 General Permit authorizes the discharge of water resulting from residential (not commercial) car washing to the MS4 only when cleaning agents are not utilized.
- The 2018 General Permit removes dechlorinated swimming pool discharges from the list of authorized non-stormwater discharges. DEP's policy as presented in its fact sheet, "Swimming Pool Water Discharge Guidelines" (3800-FS-DEP4251), calls for disposal of dechlorinated swimming pool water to sanitary sewers or otherwise the subsurface, but not streams or storm sewers.
- The 2018 General Permit adds non-contaminated hydrostatic test water discharges that do not contain detectable concentrations of Total Residual Chlorine (TRC) to the list of authorized non-stormwater discharges.

The 2018 General Permit also adds clarification concerning General Permit coverage for stormwater discharge points (outfalls). When DEP approves coverage under the General Permit, it is authorizing stormwater discharges from all outfalls identified in the NOI, including map(s) submitted with the NOI. In the course of a permittee's investigations it may be discovered that additional outfalls exist as part of the MS4. In such cases the permittee must submit written notification to DEP in the subsequent Annual MS4 Status Report. If however new stormwater outfalls are proposed, the permittee must provide written notification to DEP at least 60 days prior to commencing a discharge, unless such discharges would not meet the criteria specified in the "Discharges Not Authorized By This General Permit" section, in which case an individual permit application must be submitted and an individual permit obtained prior to commencing a discharge.

### Automatic Coverage Under General Permit

The PAG-13 General Permit was first published in 2003. The General Permit was administratively extended multiple times and expired on March 15, 2013, the day prior to the effective date of the 2013 PAG-13 General Permit. Some MS4s believed that they were still operating under the expired (2003) General Permit because DEP had not issued a written approval of coverage to operate under the 2013 General Permit. However, absent a further administrative extension, an operator cannot discharge under an expired permit, and in fact MS4s were operating under the 2013 General Permit whether DEP had issued written approval of coverage or not.

This issue is clarified in the 2018 General Permit. There are specific provisions of the 2018 General Permit that call for actions to be taken by the permittee once DEP has issued formal approval of coverage. All other provisions of the 2018 General Permit are effective as of March 16, 2018, and permittees must comply with the provisions.

The following language of the 2018 General Permit addresses this issue:

**Commented [OE1]:** Recommend adding language clarifying whether or not sampling/monitoring is required to prove non-contamination. Additionally, recommend BMPs for dechlorination be listed consistent with Comment Response document.

*If the permittee submits a timely NOI for coverage under this General Permit (i.e., by September 16, 2017) and the previous General Permit expires, the permittee is authorized to continue discharging under the terms and conditions of this General Permit. The permittee must comply with all terms and conditions in this General Permit with the exception of requirements that do not take effect until DEP's approval of coverage, as specified in this General Permit.*

To assist permittees in understanding obligations under the 2018 General Permit, DEP has developed a document titled, "Summary of Scheduled Requirements" (3800-PM-BCW0100I).

It is noted that unless DEP requires the submission of a renewal NOI by an existing permittee, DEP will no longer issue written approval of coverage once an MS4 permittee is covered under the 2018 General Permit.

#### Definitions

Certain definitions in Part A of the General Permit have been updated to better conform to state and federal regulatory definitions. In addition several new definitions have been introduced for terms used in the General Permit, including but not limited to "storm sewershed," which is a new term used to describe the area that drains into a municipal storm sewer that is the responsibility of a permittee when developing Pollutant Reduction Plans under the General Permit.

The term "waters of the Commonwealth" has been removed from the definitions and throughout the 2018 General Permit because the General Permit does not authorize discharges to groundwater, only surface water.

The term "Maximum Extent Practicable (MEP)" has been removed because the term is not defined in federal statute or regulation; EPA's MS4 NPDES General Permits in other states where it has primacy over the NPDES program do not define the term; and DEP has determined that defining the term does not materially affect the implementation outcomes of complying with the 2018 General Permit.

#### Record Retention

DEP is clarifying the issue of retention of records in Part A of the General Permit. The 2013 General Permit indicates that records relating to the stormwater management program must be retained for a minimum of three years and until at least one year after coverage under this General Permit terminates. Records of monitoring information, reports and data used to complete the NOI must be retained until at least one year after coverage under this General Permit terminates.

This language is confusing in that it could be perceived as needing to maintain all records for an indefinite period of time. The 2018 General Permit clarifies the language, as follows:

*All records of monitoring activities and results, copies of all plans and reports required by this General Permit, and records of all data used to complete the application for this General Permit shall be retained by the permittee for at least 5 years from the date of the sample measurement, report or application. Such records must be submitted to DEP upon request or as required for annual reports. The permittee must make records available to the public at reasonable times during regular business hours.*

#### Reporting Requirements

The 2013 General Permit requires certain MS4s to submit annual reports within 90 days of the anniversary of General Permit coverage approval and other MS4s to submit progress reports within 60 days following years one and three of coverage approval and with the renewal NOI.

The 2018 General Permit streamlines reporting by requiring an Annual MS4 Status Report that is due each year by September 30 for all MS4 permittees. The Annual Report would be intended to 1) serve as the MS4 permittee's notice of intent to continue operating under the General Permit and 2) report on activities conducted during the July 1 - June 30 reporting period. The first Annual MS4 Status Report under the 2018 General Permit will be due September 30, 2018 for existing permittees (September 30 following the first year of General Permit coverage for new permittees), and will cover activities completed from the end of the latest annual or progress report period (under the 2013 General Permit) to June 30, 2018.

The Annual MS4 Status Report must be submitted to the appropriate DEP regional office using DEP's annual report template (3800-FM-BPNPSM0491). At the same time the Annual Report is due a fee in the amount of \$500.00 is due and must be submitted to DEP's Central Office. This fee is an installment of the NOI fee for ongoing General Permit coverage. DEP will generally transmit an invoice for payment three months in advance of the payment due date.

In the event DEP develops electronic system(s) for the acceptance of Annual Reports and/or fees, permittees must begin using the electronic system(s) upon written notice by DEP.

#### Potential Pollution and Non-Compliance Reporting

The 2013 General Permit did not contain provisions concerning potential pollution and non-compliance reporting contained in 25 Pa. Code § 91.33, 25 Pa. Code § 92a.41(b), and 40 CFR § 122.41(l). The 2018 General Permit will contain these provisions, which are generally used for all DEP-issued NPDES General Permits. MS4 permittees have an obligation under state and federal regulations to report all incidents causing or threatening pollution (e.g., spills into an MS4 that could cause adverse impacts to surface waters or public health) and other non-compliance to DEP. Remediation of pollution is not, however, the responsibility of the permittee unless the permittee is considered the responsible party for the pollution incident.

#### Stormwater Management Program

The required stormwater management program (SWMP) is identified in Appendix A of the 2013 General Permit. The SWMP language has been moved to Part C I of the 2018 General Permit. The SWMP will continue to be based on the federal Minimum Control Measures (MCMs) as described in 40 CFR § 122.34(b), with some changes:

- For MCM #2 (BMP #1), clarification has been added that all plans, programs, maps and reports developed by the permittee under the General Permit must be posted to the permittee's website or be made available at the permittee's office(s) or through mail.
- For MCM #3 (BMP #3), the 2018 General Permit that the map(s) developed to satisfy the BMP must include privately-owned components of the collection system where conveyances or BMPs on private property are connected to publicly-owned components of the system and transport stormwater downstream of publicly-owned components, within the permittee's jurisdiction.
- For MCM #3 (BMP #4), the 2018 General Permit specifies the use of the MS4 Outfall Field Screening Report form (3800-FM-BCW0521), or equivalent, for dry weather screening of MS4 outfalls.
- For MCM #3 (BMP #4), the 2018 General Permit specifies that if the permittee determines that an outfall cannot be accessed due to safety or other reasons, the permittee shall establish an "observation point" at an appropriate location upstream of the outfall where outfall field screening shall be performed. If observation points are established by the permittee, such points must be identified on the map(s) required by the General Permit.
- For MCM #3 (BMP #5), MCM #4 (BMP #2) and MCM #5 (BMP #4), municipal permittees must submit a copy of an ordinance that is consistent with DEP's 2022 Model Stormwater Management Ordinance (3800-PM-BCW0100j) as an attachment to an Annual MS4 Status Report by September 30, 2022 (existing permittees) or the fourth (4th) Annual MS4 Status Report following approval of coverage under this General Permit (new permittees). Non-municipal permittees must develop and adopt an SOP that prohibits non-stormwater discharges, requires proper erosion and sediment control practices, and proper operation and maintenance of post-construction stormwater management (PCSM) BMPs consistent with the General Permit as an attachment to an Annual MS4 Status Report by September 30, 2022 (existing permittees) or the fourth (4th) Annual MS4 Status Report following approval of coverage under this General Permit (new permittees).
- For MCMs #4 (all BMPs) and #5 (BMPs #1 - #3), the 2013 General Permit states that if an MS4 reports in the NOI that it is or will rely on DEP's Chapter 102 program for stormwater associated with construction activities and post-construction stormwater management (PCSM), it has satisfied these requirements. The 2018 General Permit establishes a requirement for the permittee to maintain a Memorandum of Understanding (MOU) or equivalent agreement between the permittee and county conservation district (CCD) for the tasks that will be implemented by each party under MCMs #4 and #5. This MOU or written agreement also needs to be submitted with the NOI by September 16, 2017. The 2018 General Permit clarifies that where a CCD (or DEP) is

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responsible under an MOU for implementation of BMPs, the permittee is not responsible (and will not be held liable) for implementation of those BMPs.]

**Commented [OE4]:** This language is not consistent with federal regulations and must be removed or revised.

Conservation districts frequently carry out the functions of the Chapter 102 program on behalf of DEP, but the duties and responsibilities of conservation districts vary depending on delegation agreements. In the past, MS4s have sometimes assumed that a conservation district would perform a specific function that it was not authorized and/or did not receive funding to implement, and as a result necessary tasks were not completed. This is the primary reason behind the MOU requirement. The MOU is used to memorialize responsibilities much in the same way that an MS4 permittee would use a written instrument to identify roles and responsibilities with a third party for implementation of other MCMs. In the event that a conservation district does not receive funds to implement certain responsibilities from DEP, the permittee could (particularly in concert with other MS4s) agree to provide funding to implement those responsibilities. MOUs or written agreements should include the sharing of information between the conservation district and the permittee for completion of annual reports and to satisfy record retention requirements under the General Permit. DEP anticipates developing a model or sample MOU for posting to its website, [www.dep.pa.gov/MS4](http://www.dep.pa.gov/MS4).

- For MCM #6 (BMP #2), the written O&M Program must include controls for solid chemical products stored and utilized for the principal purpose of deicing roadways for public safety that are consistent with the BMPs for existing salt storage and distribution sites contained in the PAG-03 NPDES General Permit for Stormwater Discharges Associated with Industrial Activity.

#### Pollutant Control Measures and Pollutant Reduction Plans

Part C II of the 2018 General Permit and Appendices A – E require the implementation of Pollutant Control Measures (PCMs) and Pollutant Reduction Plans (PRPs) for stormwater discharges to impaired surface waters. These requirements only take effect upon DEP's written approval of coverage. DEP's MS4 Requirements Table, available at [www.dep.pa.gov/MS4](http://www.dep.pa.gov/MS4), identifies the responsibilities for MS4s during the term of the 2018 General Permit for implementing PCMs under Appendices A, B, and C of the General Permit and for developing and implementing PRPs under Appendices D and E of the General Permit. These requirements are described as follows:

- PCMs are activities undertaken by the MS4 permittee to identify and control pollutant loading to impaired waters from MS4s, regardless of whether a TMDL has been approved. PCMs are BMPs and other strategies that are in addition to the permittee's SWMP identified in Part C I of the General Permit. PCMs must be implemented where the permittee 1) has at least one stormwater outfall that discharges to impaired waters, and 2) the "cause of impairment" is one or more of the causes listed in paragraphs 1 through 3, below.
  1. Where receiving waters are impaired for metals (e.g., Iron, Manganese and Aluminum) and/or pH associated with Acid Mine Drainage (AMD), the permittee must implement the PCMs identified in **Appendix A** of the General Permit.
  2. Where receiving waters are impaired for Pathogens (e.g., Fecal Coliform), the permittee must implement the PCMs identified in **Appendix B** of the General Permit.
  3. Where receiving waters are impaired for Priority Organic Compounds (e.g., Polychlorinated Biphenyls (PCBs), pesticides, or other organic compounds), the permittee must implement the PCMs identified in **Appendix C** of the General Permit.
- A PRP is a planning document prepared by the permittee which guides the selection and implementation of specific BMPs to reduce pollutant loading to surface waters. The objective of a PRP is to improve the condition of surface waters such that the waters eventually attain water quality standards and its designated and existing uses in accordance with 25 Pa. Code Chapter 93. A PRP must be developed and submitted to DEP with the NOI if one or more of the following criteria are met:
  1. At the time of the NOI submission, the permittee has at least one stormwater outfall that discharges to surface waters within the Chesapeake Bay watershed, or otherwise at least one discharge to storm sewers owned or operated by a different entity within the Chesapeake Bay watershed. Upon approval of General Permit coverage, permittees must implement the PRP in accordance with **Appendix D** of the General Permit.

2. At the time of the NOI submission, the permittee has at least one stormwater outfall that discharges to waters impaired for nutrients (i.e., Total Nitrogen (TN) and/or Total Phosphorus (TP)) and/or sediment (i.e., siltation), and a TMDL has not been approved for such waters or otherwise a wasteload allocation (WLA) has not been assigned to the permittee's discharge(s) in a TMDL. Upon approval of General Permit coverage, permittees must implement the PRP in accordance with **Appendix E** of the General Permit.

#### Appendices A - C

PCMs involve the development of a storm sewershed map that delineates the drainage area of outfall(s) that discharge to impaired waters; an inventory of known and suspected sources of the pollutants of concern in stormwater discharges; an investigation of suspected sources; and documentation of ongoing PCM implementation in Annual Reports. Other requirements including the enactment of an ordinance for animal wastes, elimination of illicit and illegal discharges, and notification to DEP of sources originating from industrial sites. If an applicant has completed its mapping and demonstrates that there are no stormwater discharges to waters impaired by the pollutants of concern, the permittee is not required to follow Appendices A, B and/or C, as applicable.

#### Appendix D

Appendix D requires the implementation of a Chesapeake Bay Pollutant Reduction Plan (CBPRP). The CBPRP is required as part of the NOI that is due by September 16, 2017 and is approved by DEP upon DEP's issuance of written approval of coverage to operate under the 2018 General Permit. Appendix D requires the following pollutant load reductions, in percent relative to existing loading, over the 5-year period following DEP's approval of coverage: 10%, 5% and 3% for sediment, Total Phosphorus (TP) and Total Nitrogen (TN), respectively. The permittee must submit a report demonstrating compliance with the minimum load reduction(s) as an attachment to the first Annual MS4 Status Report due following completion of the 5<sup>th</sup> year of General Permit coverage. The permittee may purchase credits to satisfy the pollutant load reduction requirements upon receipt of written notification from DEP (although a mechanism is not currently in place for this, it may be within the 5-year term of the General Permit).

The draft PAG-13 General Permit only required reductions of 10% and 5% for sediment and TP, respectively. EPA commented following receipt of the draft PAG-13 General Permit package that TN reductions must be part of DEP's Chesapeake Bay strategy for MS4s. DEP consulted with EPA's Chesapeake Bay Program Modeling Team to evaluate the amount of TN that would be reduced under various scenarios where BMPs are targeted to meet sediment reduction requirements (see Attachment A). At the 10% sediment reduction scenario, the Team predicted a reduction in TN of approximately 5%. DEP ultimately determined, and EPA agreed, that a 3% standard for TN reduction is satisfactory for the purposes of the 2018 General Permit.

#### **Context of Required Reductions in Appendix D**

EPA's Chesapeake Bay model categorizes loads by sectors. MS4 loads are within a sector called "Urban". Within Urban there are regulated stormwater (MS4s) and non-regulated stormwater subsectors. The estimated 2014 loads (per EPA's 2014 progress run using the 5.3 Bay model) and the 2025 target loads for the pollutants of concern for the regulated stormwater subsector are as follows (information received from EPA's Chesapeake Bay Office):

Pollutant	2014 Estimated Loads (lbs/yr)	2025 Target Loads (lbs/yr)	% Reductions Required
TSS (i.e., sediment)	124,686,318	69,470,554	44%
Total Nitrogen (TN)	7,884,535	4,704,618	40%
Total Phosphorus (TP)	184,913	121,579	34%

Pennsylvania has an obligation to meet its 2025 Target Loads for all sectors and subsectors to comply with the Chesapeake Bay TMDL. DEP established the 2025 Target Loads in its Phase II Watershed Implementation Plan (WIP). The 2025 Target Loads for regulated stormwater may be revised in DEP's Phase III WIP (DEP has the ability to shift load, to a degree, between sectors, depending on whether the load is considered non-point source load allocation or point source wasteload allocation). In particular, DEP may decide to increase the 2025 Target Loads for the regulated stormwater subsector (by shifting load from other sector(s), thereby decreasing the percent reductions required), although decisions will not be made until DEP develops its Phase III WIP [in 2018](#). In addition, when EPA conducts its next progress run using its Phase 6 model, DEP's estimated loads from regulated stormwater may increase or decrease.



~~While there is uncertainty in the overall reductions required for MS4s within the Chesapeake Bay watershed, which should be clarified in the next few years,~~ DEP believes that a minimum of 10% reduction in sediment; a minimum of 5% reduction in TP; and a minimum 3% reduction in TN will be necessary from the regulated stormwater subsector to help Pennsylvania achieve the overall goals of the TMDL. DEP did not, for example, require a minimum 44% reduction for sediment because ~~1) this level of sediment reduction is unachievable within a permit term, and 2) it is unclear whether 44% will be the correct number once EPA's Phase 6 model is run.~~ DEP has independently run numerous scenarios and believes 10% is achievable using cost-effective BMPs within a 5-year period, particularly if MS4s collaborate on development and implementation of PRPs.

#### Development of CBPRPs

The required contents of a CBPRP are explained in a document containing PRP Instructions (3800-PM-BPNPSM0100k). Existing pollutant loadings (as of the effective date of the 2013 General Permit, March 16, 2013) must be estimated and the MS4 must select BMPs that will achieve a minimum 10% sediment, 5% phosphorus, and 3% nitrogen loading reduction. A storm watershed map of the planning area must be submitted. Municipalities that are not co-permittees may work together to develop joint plans, as desired.

It is noted that while the PAG-13 General Permit establishes minimum percent reduction requirements for sediment, TP and TN, DEP expects that the sediment reduction requirements will drive the selection of BMPs for CBPRPs. The PRP Instructions emphasize the selection of BMPs to achieve the 10% sediment loading reduction objective, as it is expected that, overall within the Bay watershed, the TP (5%) and TN (3%) goals will be achieved when a 10% reduction in sediment is achieved. However, all permit requirements for necessary reductions must be met. DEP decided on this approach when it determined that, in certain scenarios, it may be possible that achieving the TP and/or TN reduction goals is a limiting factor, which is not DEP's intent for the regulated stormwater subsector.

DEP has developed a BMP Effectiveness Values document (3800-PM-BCW0100m) for use in evaluating the selection of BMPs and pollutant loading reductions. This list is based primarily on the Chesapeake Assessment Scenario Tool (CAST) BMP effectiveness values, with some additions made by DEP. The values in this document must be used for the BMPs listed when developing PRPs. If there are BMPs not listed in this document, BMP effectiveness values from CAST or expert panel reports published by the Chesapeake Bay Program Office must be used. DEP will attempt to keep the BMP Effectiveness Values document up to date.

DEP has provided in the PRP Instructions a simplified approach to calculate existing pollutant loading and pollutant loading reductions. This approach, which may streamline DEP reviews of PRPs, may be used, or a more detailed approach may be used, at the MS4 applicant's discretion. Any methodology that calculates existing pollutant loading in terms of lbs per year (where existing is as of March 16, 2013), evaluates BMP-based pollutant reductions utilizing the BMP effectiveness values contained in DEP's BMP Effectiveness Values document (3800-PM-BCW0100m), uses average annual precipitation conditions and is based on sound science may be considered acceptable.

#### Appendix E

Appendix E requires the implementation of a PRP for waters that are impaired for nutrients and/or sediment and do not require a TMDL Plan under an individual NPDES permit. The PRP for impaired waters is required as part of the NOI that is due by September 16, 2017 and is approved by DEP upon DEP's issuance of written approval of coverage to operate under the 2018 General Permit. Appendix E requires the following pollutant load reductions, in percent relative to existing loading, over the 5-year period following DEP's approval of coverage: 10% and 5% for sediment and Total Phosphorus, respectively. If the surface water is impaired for both sediment and nutrients, both sediment (10%) and TP (5%) reductions must be achieved; if the surface water is impaired for either sediment or nutrients, the reductions must be achieved only for the cause of impairment. The BMP Effectiveness Values published by DEP (3800-PM-BCW0100m) must be used to calculate pollutant load reductions, except as noted in that document. The permittee must submit a report demonstrating compliance with the minimum load reduction(s) as an attachment to the first Annual MS4 Status Report due following completion of the 5<sup>th</sup> year of General Permit coverage. The permittee may purchase credits to satisfy the pollutant load reduction requirements upon receipt of written notification from DEP. (although a mechanism is not currently in place for this, it may be within the 5-year term of the General Permit).

The goal of a PRP for impaired waters is to implement incremental sediment and/or nutrient loading reductions so that, eventually, the impaired waters may be "de-listed" and not require a TMDL. The minimum reductions of 10% and 5% for sediment and TP, respectively, are the same as those for sediment and TP in CBPRPs. DEP felt that

establishing the same percent reduction requirements for locally impaired waters was important due to the potential overlap between Appendix D (Chesapeake Bay PRPs) and Appendix E (PRPs for impaired waters). In other words, an MS4 within the Chesapeake Bay watershed that discharges stormwater to local surface waters that are impaired for sediment, for example, would be able to combine the PRPs for those surface waters.

#### Public Participation for PRPs

Appendices D and E require public involvement for modifications to PRPs when the permittee proposes to change the location, type or number of BMPs. The same public involvement activities are a requirement for the submission of a new PRP with the NOI.

#### Waiver Application

The waiver application used for the 2013 General Permit has been revised for the 2018 General Permit to include a streamlined set of questions. The objective is for MS4s to have certainty over whether or not DEP will approve a waiver, because those that will receive waiver approval will not need to expend resources to complete PRPs (if otherwise required according to DEP's MS4 Requirements Table).

Waivers may be approved by DEP when the following are true:

1. Either the MS4 serves a population of less than 1,000 within the urbanized area OR the MS4 serves a population under 10,000 within the municipality seeking a waiver; AND
2. The MS4 does not discharge stormwater to surface waters with an approved TMDL (for any pollutant of concern and regardless if a WLA has been developed or not); AND
3. The MS4 does not discharge to any local surface water that is impaired for BOD (organic enrichment), sediment (siltation), pathogens, oil and grease and/or nutrients OR the applicant has received advanced written approval of a waiver from DEP's Central Office.

## ATTACHMENT A

### Estimating Reductions in Nutrients and Sediments from PA Regulated Stormwater

*Analysis Conducted by Chesapeake Bay Program Modeling Team including:  
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September 21, 2015*

#### Background

In response to a request by the Pennsylvania Department of Environmental Protection (PADEP), the Chesapeake Bay Program Modeling Team ran a series of scenarios to estimate reductions in nutrients delivered to the Chesapeake Bay in an average year that could result from targeting 10%, 15% and 20% reductions in sediment from MS4 regulated, urban areas.

#### Methods

The Modeling Team ran three scenarios in order to develop a relationship between delivered sediment and nutrient reductions from PA's MS4 regulated, urban areas. Each scenario assumed that these communities would utilize best management practices to treat 2.8 inches of stormwater from each acre of land treated. Using the 2.8 inch goal, the Modeling Team estimated both the number of acres of impervious and pervious MS4 land and the total volume of water that would require treatment to achieve estimated delivered sediment reductions of 10%, 15% or 20%. All scenarios were compared to the Bay Program's official 2014 Progress scenario results so the reductions could be described as the result of additional actions in the future with the assumption that current actions practices remained in place. The results from these three scenarios were then used to develop linear regressions which described the relationship between delivered sediment and nutrient reductions.

#### Total Treatment Required

The Modeling Team attempted to estimate the number of acres of MS4 land and volume of water that would require treatment within PA's portion of the Chesapeake Bay Watershed to achieve the targeted reductions in delivered sediment. This can be calculated statewide if it is assumed that 1) every project will treat to the PA-required 2.8 inch performance standard<sup>1</sup>, and 2) every project contains the same mixture of impervious and pervious acres. For 2014, that mixture was 132,209 impervious acres and 414,043 pervious acres, or 3.13 pervious, regulated acres for every 1 impervious, regulated acre. This ratio was assumed to remain constant in each scenario. The Modeling Team also estimated the volume of stormwater (in acre-feet) that would require treatment. These estimates are presented in Table 1. As you can see, treating to the very high 2.8 inch performance standard means that only a portion of the total regulated acres and stormwater volume require treatment to achieve the estimated reductions. In reality, reductions are based on site-specific parameters, with one site potentially treating mainly impervious acres to a 3 inch standard while another treats mainly pervious to a 1.2 inch standard. Those site-specific mixtures could not be considered for these statewide planning scenarios.

\* \* \* \*

<sup>1</sup> Performance standard reductions are based upon removal rate adjustor curves described in the expert panel report which can be found at: [http://www.chesapeakebay.net/documents/Final-CBP-Approved-Expert-Panel-Report-on-Stormwater-Performance-Standards-LONG\\_012015.pdf](http://www.chesapeakebay.net/documents/Final-CBP-Approved-Expert-Panel-Report-on-Stormwater-Performance-Standards-LONG_012015.pdf). It was assumed that all practices implemented in these scenarios would be stormwater treatment (ST) practices, and thus use the ST curves described in this document to estimate reductions.

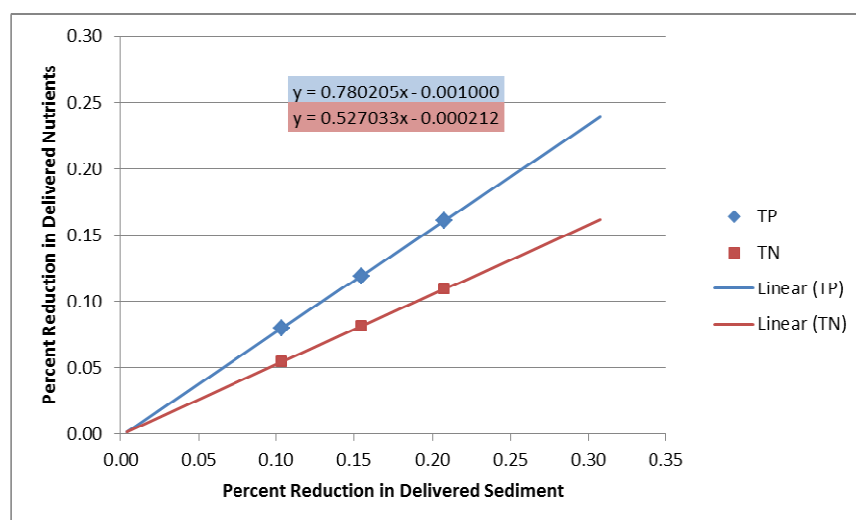
**Table 1. Necessary Acres and Volume Treated to Achieve Targeted Percent Reductions in Delivered Sediment**

Percent Reduction in Delivered Sediment (Goal)	Total Acres (2014 Progress)	Total Acres Treated	Impervious Acres (2014 Progress)	Impervious Acres Treated	Pervious Acres (2014 Progress)	Pervious Acres Treated	Volume (Acre-Feet)
20%	546,252	137,496	132,209	33,292	414,043	104,204	7,769
15%	546,252	102,411	132,209	24,797	414,043	77,614	5,786
10%	546,252	68,748	132,209	16,646	414,043	52,102	3,885

## Results

This analysis indicated that the Phase 5.3.2 Watershed Model's estimates of nutrients reduced from stormwater performance standard projects are directly related to sediment reductions from those projects. Figure 1 shows the percent reductions that were found in each of the three scenarios as well as the relationship between these reductions. The relationships of sediment reductions to phosphorus and nitrogen reductions are described in the equations in Figure 1. These relationships allow PA to estimate the statewide reductions in nutrients that could result from any targeted sediment reduction from MS4 lands. Table 2 includes potential reductions for a number of sediment targets based upon these relationships.

**Figure 1. Relationship of Phase 5.3.2 Watershed Model Reductions of Delivered TSS and Nutrients**



**Table 2. Estimated Phase 5.3.2 Watershed Model Reductions of Delivered Nutrients Based Upon Sediment Reduction Target**

Percent Reduction in Delivered Sediment	Percent Reduction in Delivered Phosphorus	Percent Reduction in Delivered Nitrogen
5%	3.8%	2.6%
8%	5.8%	3.9%
10%	7.7%	5.2%
12.5%	9.7%	6.6%
15%	11.6%	7.9%
17.5%	13.6%	9.2%
20%	15.5%	10.5%
22.5%	17.5%	11.8%
25%	19.4%	13.2%
27.5%	21.4%	14.5%
30%	23.3%	15.8%

This analysis dealt only with the estimated nutrient and sediment loads from MS4 regulated areas. In 2014 Progress, MS4 regulated impervious and pervious lands accounted for 6.7% of all nitrogen, 4.2% of all phosphorus and 4.8% of all sediment from PA's portion of the Chesapeake Bay Watershed. While reductions from these lands are important for local water quality and the Chesapeake Bay, Table 3 shows that much greater reductions are needed across other PA sectors in order to achieve the targets described in PA's Phase II Watershed Implementation Plans. Additionally, these scenarios assume zero increase in regulated acres. Any increase in acres due to development will require further treatment and retrofitting of existing acres in order to offset the new load.

**Table 3. Phase 5.3.2 Estimated Delivered Nutrients and Sediment Compared to 2025 Phase II WIP Targets**

Delivered Nutrient	2014 Progress	10% Sediment Reduction	15% Sediment Reduction	20% Sediment Reduction	2025 Target
TN (Lbs)	117,013,836	116,583,127	116,372,094	116,152,083	78,995,996
TP (Lbs)	4,438,258	4,422,675	4,415,002	4,406,998	3,570,897
TSS (Tons)	1,309,035	1,302,014	1,298,588	1,295,015	972,616